69	KSRB 11-2 : Providing and fixing white vitreous china clay, water closet Orissa pattern of size 580 x 440mm with integral type footrests, 100mm S or P trap, 10 litre low level, P.V.C flushing cistern (all are approved make) with fittings, C.I / M.S brackets, 32mm diameter flush pipe fittings and clamps, overflow arrangements with special and 25mm mosquito proof coupling of approved design, painting of fittings and brackets, cutting and making good the wall and floor wherever required, including cost of materials, labour complete as per specifications. Specification No. KBS 11 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	7.00	4789.56	7.00	33526.92	7.00	33526.92
70	KSRB 11-7.1 : Providing and fixing white vitreous china clay, flat back, lipped front urinal basin of 430x260x350mm with 5 litres PVC automatic flushing cistern, C.I / M.S brackets, standard flush pipe and C.P. brass spreaders with brass unions and G.I. clamps complete painting of fittings and brackets, cutting and making good the wall and floor wherever required, including cost of materials, labour complete as per specifications. Specification No. KBS 11 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	unit	8.00	3483.32	8.00	27866.53	8.00	27866.53
71	KSRB 12-1.2 : Providing and laying in position to required level or slope 150mm internal diameter salt glazed stoneware pipes grade A and jointing with stiff mixture of cement mortar in proportion of 1:1, testing of pipes and joints,including cost of materials, labour charges complete as per specifications. Specification No. KBS 12.2.5 / 12.7 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	m	75.00	417.27	75.00	31295.42	75.00	31295.42
72	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 - -150mm dia with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	m	60.00	443.35	60.00	26601.11	60.00	26601.11

Scanned by TapScanner

73	Providing Square Tank Covers of size 24" X 24" at 21kgs with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	2.00	1336.52	2.00	2673.05	2.00	2673.05	
74	Providing Footsteps of size 15" X 14" Heavy with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	10.00	290.82	10.00	2908.22	10.00	2908.22	
75	KSRB 2-2.2 : Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	60.81	222.36	60.81	13522.28	60.81	13522.28	
76	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 - (1:4:8 - (M7.5)) with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	1.19	5677.99	1.19	6771.00	1.19	6771.00	
77	Providing and laying reinforced cement concrete pipe NP3 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 - - 300mm. dia with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	21.20	1707.18	21.20	36192.20	21.20	36192.20	

Scanned by TapScanner

78	Providing and laying reinforced cement concrete pipe NP2 for culverts including pointing ends, and fixing collars with cement mortar 1:2 including cost of all materials, labour, curing complete as per specifications. Specifications. No. KSRB 1000, 2300 MOST Specification No.1000 / 2300 - - 1200mm dia with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtr	32.00	6274.50	32.00	200783.88	32.00	200783.88	
79	Filter media stone aggregate 60mm &down size with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	10.85	1407.98	10.85	15279.16	10.85	15279.16	
80	Crushed stone aggregate 13.2mm to 10mm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	10.85	1457.58	10.85	15817.38	10.85	15817.38	
81	Sand/ Artificial Sand/ Manufactured Sand with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	4.52	2125.31	4.52	9609.81	4.52	9609.81	
82	Supplying and Fixing of Garbage bins rectangular with permanent structure series without arch 100litre capacity approved by Engineer in charge with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	6.00	19370.66	6.00	116223.93	6.00	116223.93	
83	Executive bench made out of sadaralli grey stone with hand suport 3 line finishing with arch desiagn with 100cm slabs height 90% length 45cms (data approved rate) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	13.00	19108.18	13.00	248406.34	13.00	248406.34	

Scanned by TapScanner

84	Geophysical investigation of site for Sinking borewell for supplying drinking water to the habitations either through the hand pump,MWS,P.W.S.S by vertical electrical sounding by adpoting venner or Schlumberger's method,including reconnaissance survey of Geological formation. Geophysical investigation of existing ground indecundity its quality & acceptability of the users indicating the location of site,recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 metre inconsolidated formation for proper seating of casing pipe,depth of drilling required to cover full depth of aquifer proposed to be tapped,probable yield and other information required including transportation of instrument and accesories to work site,engaging technical personal and labour required ◆etc., with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	1.00	3956.02	1.00	3956.02	1.00	3956.02
85	Sinking borewell of 165 mm dia clear using super fast hydraulic ◆rig of capacity 250 PSIG & above 900 CMF & above in all strata including over burden upto 20 M fixing of casing pipes, collars and cap with necessary cutting and threading including transportation of rig and supporting vehicals, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour .(excluding cost of casing pipes, collars, cap ect.) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work 0 to 50 m							
86	0 to 50	Rmt	50.00	364.32	50.00	18215.77	50.00	18215.77
87	50 to 100 m	Rmt	50.00	464.06	50.00	23202.79	50.00	23202.79
88	100 to 150 m	Rmt	50.00	478.75	50.00	23937.72	50.00	23937.72
89	150 to 200 m	Rmt	50.00	562.75	50.00	28137.82	50.00	28137.82
90	200 to 250 m	Rmt	50.00	665.64	50.00	33281.83	50.00	33281.83
91	250 to 300 m	Rmt	50.00	734.93	50.00	36746.50	50.00	36746.50
92	300 to 350 m	Rmt	50.00	866.17	50.00	43308.58	50.00	43308.58

Scanned by TapScanner

93	Providing and fixing 250mm dia PVC (casing pipe) (page no.XXXI, SL no.909 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Rmt	12.00	2729.74	12.00	32756.88	12.00	32756.88
94	Supply of ISI Mark 175mm nominal Bore, Plain end steel casing Pipe-grade of steel Fee 4100 of wakk thickness 504mm thick confirming to IS 4270:2001 and latest amendments, electric resistance welded steel electric or basic oxygen process in fandom length of 5 to 7mtr. Both ends threaded confirming to Is554/1985 one end fixed with socket confirming to IS 270:2001 and other end with screwed pipes. All pipes shall be reasonably free from defectes. The tubes shall be resonably straigth should be with ISI Marking Weighting 25.10 kg/mtr (Inclusive of all taxes and durties) Prices include Collar - medium duty. (Page No.III,It no.84) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Rmt	30.00	1391.12	30.00	41733.53	30.00	41733.53
95	Providing 175mm Dia M.S. Collar with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	5.00	157.49	5.00	787.43	5.00	787.43
96	Providing 175mm dia Bore Cap CE (M) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	104.99	1.00	104.99	1.00	104.99
97	Atalanta suguna CRI KIRLOSKAR and other equipments pumps 10.00 HP/7.5 KV (20 stage) with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	52447.75	1.00	52447.75	1.00	52447.75
98	Providing and fixing in trenches galvinised/mild steel tube 50mm dia nominal bore with all fittings (earth work in trenches to be measured and paid for seperately) including cost of all materials, labour charges,HOM of equipment and testing complete as per specifications. Specification No. KBS 13.2.14/13.6 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Rmt	300.00	431.80	300.00	129540.86	300.00	129540.86

Scanned by TapScanner

99	Supplying and drawing 3 core flat PVC sheathed submersible pump cable maufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to table 3 class 5 to IS 8130-1984 and virgin grade PVC insulation and power coating extruded PVC sheathed suitable for working voltage upto 1100 volts with specified IS 694:1990 and confirming to the attwached GTP of group A 3CX4.0 sq.mm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Rmt	610.00	133.02	610.00	81143.62	610.00	81143.62	
100	Providing and fixing in position 50mm Nominal bore non-return valve vertical type of approved make including cost of all materials,labour and HOM of equipment with all leads complete as per specifications. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	1412.26	1.00	1412.26	1.00	1412.26	
101	Spplying and fixing 50mm GI Union. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	234.86	1.00	234.86	1.00	234.86	
102	Spplying and fixing 50mm GI Elbow. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	117.38	1.00	117.38	1.00	117.38	
103	Spplying and fixing 50mm GI Nipple with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	109.50	1.00	109.50	1.00	109.50	
104	Spplying and fixing 50mm GI Hose colleres with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	50.00	108.14	50.00	5406.99	50.00	5406.99	
105	Supplying and fixing 20" x 20" x 2.5" polished wood board made of not less than 15mm thick plank on both the sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc., with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	317.07	1.00	317.07	1.00	317.07	

Scanned by TapScanner

106	Supplying and fixing miniature circuit breakers on existing MCB distribution board using necessary fixing materials and 'C' type curve indicator ON/OFF energy cross-3 with short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	2032.61	1.00	2032.61	1.00	2032.61
107	Supplying of TPST with rewirable porcelain channels in SM encloser made out of 14 SWG powder coated point of approved colour 32 amps with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	1961.21	1.00	1961.21	1.00	1961.21
108	Supplying and fixing LED type panel board indicating lamp with required colour suitable for 220 V AC 50 HZ 12/24 V DC with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	464.06	1.00	464.06	1.00	464.06
109	Suppling fully automatic star delta starter unit push button type with suitable wires 2 conductors and adjustable thermal timer mounted on a common base plate held in steel enclosure for use on 400/440 volts phase and wired after fixing to the existing wooden board for motor. upto 12.5HP with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	6911.49	1.00	6911.49	1.00	6911.49
110	Supplying and fixing single phase preventer using necessary wires over an existing panel board suitable for motar up to 20 HP capacities. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	806.32	1.00	806.32	1.00	806.32
111	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade multistrand copper conductor single core wire in open or concealed system of wiring as per IS 694:1990 & conforming to the attached GTP of group A. 4 sqmm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtrs	20.00	44.20	20.00	884.02	20.00	884.02

Scanned by TapScanner

112	Supplying fixing and wiring heavy duty low voltage capacitors conforming to IS 2834 phase 400/440 volts grade, for power factor improvement of rotating machinery. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	4.00	434.66	4.00	1738.63	4.00	1738.63	
113	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C cotouts and other equipments on the meter board using 40mm dia 2.90 thick GI pipe 2.5 mtr long buried in a pit... The pit should be filled with equal proprotion of salt and charcoal 150mm alround the pipe to complete depth. The connection from the to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	2863.08	1.00	2863.08	1.00	2863.08	
114	Digging of trench of 0.36mtrs deepx0.5 mtrs wide refilling the trench to the required gorund level and consolidating etc., complete with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtrs	8.00	111.29	8.00	890.32	8.00	890.32	
115	Supplying laying 1.1 KV class LT UG cable having aluminium conductor PVC insulated extruded inner shethed galvanised steel strip (excep 2cx 10 sqmm wire armoured) confirming to IS-3975:1990 (No. of strip indicated in GTP) and extruded PVC outer sheathed armoured cable with specified IS-1554,part-1:1988 and confirming to the attached GTP of group A 4 core 16 sq mm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtrs	10.00	147.41	10.00	1474.06	10.00	1474.06	
116	Labour charge for laying 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe/ on wall / on poles as required in existing trench/duct. 6 sq mm to 16 sq mm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	25.00	11.34	25.00	283.47	25.00	283.47	
117	Supplying and fixing class-A(medium duty) GI pipe wall thickness not less then 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1KV class 40mm with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Rmt	2.00	362.22	2.00	724.43	2.00	724.43	

Scanned by TapScanner

118	Supplying and fixing LT cast iron pot heads suitable for 1.1KV class UG cable filled with necessary bitumen / insulating compound complete with terminals,clamps bolts and nuts and washer etc.,complete for 16 sq mm as per specifications. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	1.00	293.97	1.00	293.97	1.00	293.97
119	Supplying and fixing porcelain fuse channel with cut out on the existing wooden block and wiring complete 63 amps with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	No	3.00	245.68	3.00	737.03	3.00	737.03
120	Dismantling of cement concrete pavement by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials upto a lead of 1000 meters, stacking serviceable and unserviceable materials seperately complete as per specifications. MORTH Specification No. 202 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	36.00	1000.49	36.00	36017.70	36.00	36017.70
121	Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1(b) / 2.3.5 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	54.00	499.69	54.00	26983.23	54.00	26983.23
122	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings, this includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (external work) - 50mm nominal OD pipes with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtr	200.00	480.77	200.00	96154.04	200.00	96154.04

Scanned by TapScanner

123	Making connection of G.I.distribution branch with G.I.main of 25mm to 40mm. Nominal bore, including cutting and threading the pipes,providing and fixing Tee, nuts,labour for all item of works,testing and HOM of equipments complete as per specifications. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	20.00	537.53	20.00	10750.56	20.00	10750.56	
124	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778 having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings, this includes jointing of pipes and fittings with one step solvent cement, trenching, refilling & testing of joints complete. (external work). - 20mm nominal OD pipes with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtr	220.00	174.72	220.00	38439.36	220.00	38439.36	
125	Providing and fixing to wall, ceiling and floor Medium density polyethylene pipes 6.00 kgf/sq.cm working pressure 25mm outside diameter with special flange, compression type fittings, wall clips, making good the wall, ceiling and floor, including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No.KBS 13.2.15.1 / 13.9 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Mtr	100.00	143.56	100.00	14356.33	100.00	14356.33	
126	KSRB 2-4 : Refilling available around earth pipe lines,cables in layers mot exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. And lift upto 1.5m. Including cost of all labour complete as per specifications. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	37.80	134.66	37.80	5090.15	37.80	5090.15	
127	Loading and unloading of stone boulder/stone aggregates/sand/kanker/ moorum. KSRRB M100-1:Placing tipper at loading point, loading with front end loader,dumping, turning for return trip, excluding time for haulage and return trip complete as per specification MORTH Chapter 1 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	52.20	73.28	52.20	3825.37	52.20	3825.37	

Scanned by TapScanner

128	KSRB 2-4 : Providing and fixing in position brass gate valve with C.I.wheel of approved quality (screwed end) 50mm nominal bore including cost of all materials,labour and HOM of equipments with all leads complete as per specifications. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	1.00	1935.32	1.00	1935.32	1.00	1935.32	
129	KSRB13-6.2-1 : Providing and fixing in position brass stop cock of approved quality 15mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No.KBS 13.2.2 / 13.3 with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Each	20.00	156.92	20.00	3138.36	20.00	3138.36	
130	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180kgs, with 40mm and down size graded granite metal coarse aggregates @0.85cum and fine aggregates @ 0.57cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. with all lead and lift , loading and unloading and allother incidental charges etc., complete as per specification and direction of the engineer-in-charge of the work	Cum	27.00	5677.99	27.00	153305.60	27.00	153305.60	
	Sub-Total					**8972612.71**		**8972612.71**	
	Add 12% GST					**1076713.53**		**1076713.53**	
	Total					**10049326.23**		**10049326.23**	
	Amount in Words	**One Crore Forty Nine Thousand Three Hundred Twenty Six and Twenty Three Paise Only**							

Certificate:

1 Certified that the contractor has done the work satisfactorly
2 Certified that the debris has been removed from the site
3 Certified that the No dues from the contractor
4 Certified that the above item of the work were not claimed in any other bill

Tejus Consultant

Assistant Engineer

Assistant Executive Engineer

Executive Engineer

Asst. Executive Engineer
Project Division
Yelahanka Zone
BBMP, Bangalore - 92

Scanned by TapScanner